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REPORT

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(See inside cover)

**DELTA SERIES SSBN PROGRAM
USSR**

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DECEMBER 1976

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DELTA-SERIES SSBN PROGRAM, USSR**Summary**

1. Three significant facts about the Delta- (D-) series nuclear-powered ballistic missile submarine (SSBN) production were derived from an analysis of photography of the Severodvinsk Shipyard Complex, USSR. First, the configuration of the outer hull keel area is probably deeper than that of the Yankee- (Y-) class SSBN, suggesting a capability to carry a larger missile. Second, with the construction of the fifth unit and the follow-on units, the missile bay was [redacted] higher than those of the previous D-class SSBN hulls. Finally, the observation of large, [redacted], ballast cans with the modified D-II SSBNs (units 5—8) and their movement from the storage area indicate that the SS-NX-18 missile will be carried on these submarines.

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2. Because of the difference in missile bay size and the probable weapon system carried, unit 5 and similarly configured units should be designated as D-III SSBNs. It is possible that if the height of the missile bay is increased, D-II SSBN units 1 through 4 and even the D-I SSBNs could carry the SS-NX-18 missile.

Discussion

3. In October 1971 D-class SSBN flotation device supports (Figure 1) were first observed in the launch basin along launch rail D at Severodvinsk Shipyard 402 [redacted]. When first seen, they were adjacent to Y-class flotation device supports along launch rail C. The supports along launch rail D were larger than those used in the Y-class launch sequence; [redacted]

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[redacted] This observation of the new supports coincided with the completion of deepening the launch basin.

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4. When the flotation devices have been seen attached to both Y- and D-class submarines, they appear to be attached at the same relative position below the missile bay. If the submarines have a common hull configuration below the waterline, a larger device support would not be needed for the D-class SSBN. Therefore, this increase in the size of the supports, especially in the height, suggests that the outer hull keel area of the D-series SSBN is deeper than that of the Y-class SSBN. This change may have been necessary so that the D-class SSBN could accommodate the SS-N-8 missile.

5. Extensive mensuration was conducted to determine whether there were any differences among the D-II SSBN units. [redacted]

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Both units were at Severodvinsk Shipyard 402. Measurements were made to determine missile bay height relative to the walking deck and the sail planes. The missile bay of D-II SSBN unit 1 is similar to that of the D-I SSBNs, [redacted] above the walking deck. [redacted]

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6. Additional measurements were made of three of the first four D-II SSBNs (possibly including unit 1) when they were observed at Olenya Guba Submarine Base [redacted]. The missile bays were roughly 3 meters (9.8 feet) above the walking deck, approximately the same height as that of unit 1 [redacted] four D-II SSBNs (units 5—8) were at the main quay of Severodvinsk Shipyard 402. [redacted] two D-II SSBNs were seen there, and another D-II SSBN was on the north ledge of the launch basin at Severodvinsk Shipyard Yagry Island [redacted]

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7. In May 1975, 12 new ballast cans were identified at Severodvinsk Shipyard 402. Eight of the new cans were near construction hall No 2, and four were in the storage area near the calibration quay. The new ballast cans are 1 [redacted] longer than the SS-N-8 ballast cans. By the end of April 1976, at least 25 of the larger ballast cans were in the storage area (Figure 2). The only known submarine-launched ballistic missile of comparable size under development is the SS-NX-18 missile. These larger ballast cans are believed to be associated with this system and will be designated as SS-NX-18 ballast cans.

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8. The SS-NX-18 ballast cans were first associated with a specific class of submarine [redacted] On that date four of these ballast cans were on the main quay near D-II unit 6, and only 11 or 12 remained in the storage area. [redacted] eight SS-NX-18 ballast cans were on the quay, and none were in the storage area. Prior to 15 August, D-II SSBN unit 5 had been fitting-out along the main quay. No SS-NX-18 ballast cans were seen being loaded into unit 5; however, because such a large number of cans had been moved, it is likely that they had been loaded into D-II unit 5, as well as unit 6.

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Comments

9. The dimensional difference between the missile bays of units 1 through 4 and those of units 5 through 8 indicates that there are two types of D-II SSBNs. The first type, D-II SSBN units 1 through 4, apparently carries the SS-N-8 missile. The second type, units 5 through 8 (and probably all the follow-on units), has been associated with and apparently carries the SS-NX-18 missile. Because of the difference in the size of the missile bay and in the missile system carried, unit 5 and the follow-on units will be reported as D-III-class SSBNs.

10. If the hull keel area of the D series is the same for all units, then it is possible that, by increasing the height of the missile bay and changing the launch tubes, the D-I- and D-II-class SSBNs could be modified to carry the SS-NX-18 missile. High-resolution photography of all units leaving overhaul facilities would be required to determine whether this modification were undertaken. Imagery of similar quality would also be necessary to distinguish unmodified D-II SSBNs from D-III SSBNs at operating bases.

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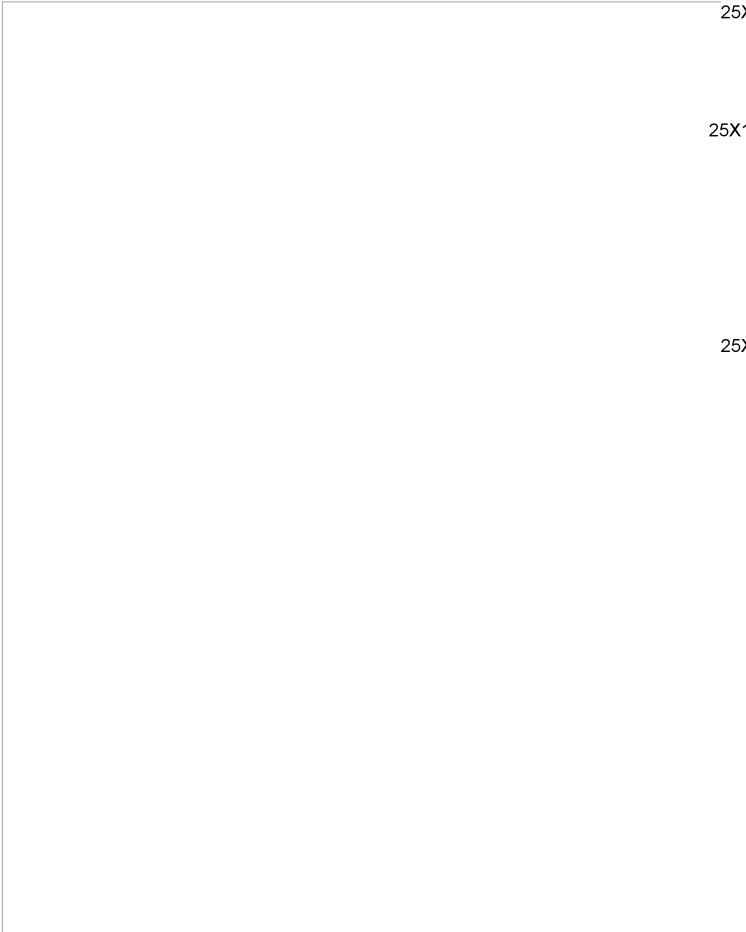
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REFERENCES

MAPS OR CHARTS
SAC. US Air Target Chart, Series 200, Sheet 0092-22, scale 1:200,000

REQUIREMENT
Project 143470ND



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